310 Carlyn Drive
Milton, Florida 32571
26 April, 1993

Mr. Ralph A. Haller, Chief
Private Radio Bureau
Federal Communications Commission
2025 M Street, N. W.
Room 5008
Washington, D.C. 20554

Re: Submission of comments on RM-8218

Dear Mr. Haller:

I, Nicholas D. Zorn, 310 Carlyn Drive, Milton, Florida 32571, amateur license N4SS, respectfully submit the following comments concerning the petition. These comments are my own, and have no bearing upon affiliation with any group or segment of the amateur population. I have been licensed since January, 1955 and operate using CW, SSB, AMTOR, Packet, PACTOR and Clover modes. My primary interest is public service, with which I've been involved since 1958. I have been a member of the ARRL for nearly 40 years and a Life Member since the mid-1970's. I am retired from the Navy with over 24 years of service and have BS and MS Degrees in Systems Science (Scientific), which are computer, electrical engineering and process control related courses from the University of West Florida.

The subject document was a response by the Commission to a request submitted by the Board of Directors of the American Radio Relay League. Some of the comments I make will be somewhat critical of the Board of Directors, so I wish to state here that I'm convinced they are all good, honorable people who feel that they act in the best interests of the amateur community as a whole. I happen to believe that, in certain instances, they are wrong.

The ARRL's request discusses in some detail the immediate past history of the League's involvement in the development of data communications and the long lived STA. The League is certainly accurate in its statement that "Improvements in digital communications modes and protocols, and adaptations of data modes and protocols, are proceeding at a rapid pace." I also agree that fully automatic operation in certain subbands is desirable. However I do not agree with the League, nor does it speak for me, concerning data and semi automatic operation. The STA operation has continued since July, 1987 and the results have been mostly negative; that is, the use of packet on HF has proved what does not work and what is needed in the way of improvements. As a matter of related interest, I once set my equipment to monitor the (20-meter) "Skip Net" for about six to eight hours of daylight operation. The result was a file of about 60,000 bytes containing nothing but attempts to connect between stations in the net with few actual connects and no--repeat, NO--traffic passed. There were many, many cases where the calling station "retried out"

and then repeated its list of stations to call over and over again.

I was one of those who made comments in the survey which the League referred to on page 11 of its submission. I felt concern that, if automatic operation were allowed outside of subbands, the successful ongoing AMTOR/APlink operation that members of the National Traffic System (NTS) were using might well be interfered with by the HF packet networks. Thus some of the concern revealed by the survey was with the intent of protecting the system(s) which did work (APlink) against that which we had already tried (HF packet) and found not to work. Stated in other words, I and probably others, wanted to protect the "semi-automatic" APlink operation from wandering HF packet nets. This is a different conclusion than the League draws in its petition.

Concerning the "Semi-Automatic Control" operation which the League refers to in paragraph 14, page 13 of its submission, I believe that their proposal in the last part of the paragraph was exactly correct. It is clear that this system, namely the "semi-automatic" operation and sharing the bands, has been working for a number of years (I've been told by some amateurs that it's about forty years) using Baudot and AMTOR. You will note that this proposal was opposed by "certain participants in the HF packet networks"--paragraph 15, page 14. The acceptance of this opposition as a bar to the proposal is indicative of the attitude of the ARRL Board of Directors and members of the Executive Staff at ARRL Headquarters who make decisions in such cases and is the reason that the League does not speak for me as an individual amateur in data communications matters. This same characteristic was exhibited again at the January, 1993 meeting of the ARRL Board of Directors (see QST for March, 1993, page 79, minute 63).

I believe that few of the members of the Board are active on the digital modes and therefore have little practical knowledge of the subject, although at least two of them have made the effort to become informed. These were two of the three who voted in favor of semi-automatic operation. See also the top of page 15 of the League's petition where the Digital Committee was "asked to revisit the issue again....which it did in late September, together with a representative group of the STA participants." In contrast, the Digital Committee which made the recommendations to the Board was made up of very knowledgeable (often professional) digital/data communications oriented people. I agree with their recommendation and assert again that "semi-automatic" operation has been conducted successfully for many more years than the duration of the STA. The ARRL, in its petition, recognizes this type of operation on page 11, second paragraph which states "...RTTY and AMTOR MBOs typically operate in this mode." One of the improvements made recently is the ability of the PK-232 (and I've been told, the KAM and perhaps others) to detect the presence of AMTOR signals on a frequency and refuse to transmit if the frequency is already in use. Most of the interference that I have observed appears to be caused by the "old timers" still on Baudot who either don't listen or don't recognize that the new and strange sounding signals they hear are not intruders and need to be "stomped on."

There are other factors not clearly discussed in the petition which are related to the issue at hand and should be resolved along with it. One of these is the inefficient use of spectrum. Technology is at hand to provide much narrower emissions than some in current use and thus, in effect, expand the frequencies available to amateurs. Beyond this, if it is found necessary to expand the frequencies available for data modes, consideration should be given to reducing the 'phone portions of the bands. Considerable additional space has been given over to 'phone at the expense of CW and RTTY over the years. There has been little if any benefit resulting from those changes and, some would argue, a great amount of mischief is being carried out in those bands. It seems certain to me that the continued use of CW should be encouraged, and proficiency required, so expansion back up into the area which is now for 'phone operation but was originally CW/RTTY is a reasonable solution. However, expansion of the amateur bands outside the current limits but within the international limits would be a better solution. For example, expand the 20 meter band from 14350 khz up to 14400 khz. To allow encroachment further into the CW portions of the bands will further hamper traffic net operations which are "bumping into" (and on top of, occasionally) each other. It no doubt is true that not all of the CW bands are busy all the time; the same can be said of the 'phone bands, especially the lower portions. I think the value of public service operations is greater than the never-ending "yak-yak" one hears on 'phone.

I suggest that further consideration be given to this matter on at least four fronts:

a) discontinue those modes that are outdated and or offer no error correction or detection (ie, Baudot and ASCII); and

b) discontinue those modes that require excessive bandwidth--in this case Packet, which requires 2,000 hz to operate satisfactorily (given acceptable propagation) on HF.

c) impose a limit of 200 watts on all unattended automatic and semi-automatic HF RTTY/data operation, regardless of where in the HF spectrum and on what mode that operation occurs.

d) disallow operation on the HF bands of "Personal Mail Boxes" such as found in the present (updated) PK-232/ KAM Terminal Node Controllers. This change should be made because these appear to be "personal" as opposed to public BBS/MBO operations and, in any case, do not offer the facilities of a BBS/MBO. There is a sufficient number of BBS/MBO's on HF to serve these additional people without hardship or inconvenience. I agree that they should be able to continue operation on VHF and higher frequencies. This change can be implemented with a very simple change in ROM-resident code by the manufacturers.

Pactor should be carefully evaluated. My impression is that

it occupies significantly more space than AMTOR for satisfactory operation; perhaps limiting its baud rate, reducing shift to 170 and/or requiring DSP could help. I am not equipped to make sufficiently accurate measurements of Pactor to be more specific. Given some fine tuning, it seems to me that Pactor should replace packet on HF.

Part 97 defines amateur radio as a "service" and I understand this to mean service in the public interest. Most of the "messages" passed either automatically or semi-automatically are personal between amateurs and are rather trivial in nature. I pose no objection to reasonable ones, and invite attention to the subject to make this point: The amateur community itself needs to cease this sort of operation in times of emergency and also when necessary to promote experimentation and development of newer potentially more effective technology. That is, I would like to see more emphasis by the amateur community on public service.

In summary, I request that the Commission modify the rules as originally recommended to the ARRL Board of Directors by its Digital Committee, (see QST for March, 1993, page 79, minute 63) and not as ultimately requested by the League in its petition. This will provide for fully automatic unattended operation in subbands and "semi-automatic" operation outside the subbands as permitted by class of license and using gentlemen's agreements for seperation as is now done. The ARRL can be of considerable assistance in helping the digital community publish updates to the "real" gentlemen's agreements in its various publications. I further request that it consider the four points mentioned above concerning matters not sufficiently discussed in the petition, thus settling the whole matter at one time if possible. It may be that some of these things should be the subject of a separate petition. In that case I will be happy to cooperate.

A copy of this letter is being sent to the ARRL.

Sincerely,

Nicholas D. Zorn

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